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M.D. F.R.C.S.

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MEDICINE: AND THE MAN

BY

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CONTENTS

I

A MEDICAL POINT OF VIEW

A memory of my student days is of a patient who puzzled us by his unclassical symptoms till word was passed round, "Dr. Dash says it's functional." Then we knew that all problems of diagnosis and treatment were ended, and we soon saw his bed occupied by a patient who gave us something upon which to exercise our skill. True, we had learnt that if you cannot find an organic disease you must think of a functional nervous disorder. But 'functional nervous disorder' left us with a vague impression that something was happening in the man's nervous system which produced symptoms that no fellow could be expected to understand; and to rely upon the method of exclusion for a diagnosis made us feel that only one with the

omniscience of Dr. Dash could dare to act upon such negative evidence.

My memory of the symptoms is indefinite ; conforming to no type, they consisted of alterations in the powers of movement and sensation which anyone could reproduce, or at least mimic, at will. Something prevented us from thinking, " This man is doing these things himself, but we don't know why and we don't know how to find out." We had been educated in the methods of exact science, taught to handle, to weigh and to measure ; we were able to deal with things material, things we could point at in a bottle or on a slide, and anything outside that sphere did not seem to be really knowledge. As a matter of fact we did learn of things that could not be pointed at—Ehrlich's side-chains, for example, or the benzene ring—but we put these in the material sphere until, as happened with the side-chains, they became eliminated from the scheme of things. Then we thought a mistake had been made and corrected.

We neglected the *as if* condition of

a hypothesis. The conception of the benzene ring enabled chemists to summarize observations and to predict the findings of experiments. Yet it rested only upon the fact that the benzene molecule behaved *as if* it existed in the ring form first described by Kekulé. Whether the ring really existed did not matter. The theory had pragmatic justification—it worked and was useful. Moreover, anyone trained to think in terms of the things one handles could bring the theory into line with his philosophy without undue effort. But this economy of effort has grave dangers, especially in the presence of the belief that the aim of science, and incidentally of medicine, is to place knowledge on a sound material basis. This is a legitimate aim, having as motive the desire to know about ourselves and the world we live in, a desire so strong that throughout the history of man it has impelled him to believe that he has achieved the aim when he has only produced speculations to satisfy the desire. Hence science must maintain a distinction between fiction and

hypothesis, between speculations and those observations and theories which conform to certain canons.

To define those canons would soon lead into debatable ground, but examples of speculation abound in medicine. Semon's theory of engrams, for example, explains human behaviour as resulting from the action of groups of coordinated nerve elements, the engrams, which subserve not only functions like memory but experiences such as fear or anger and tendencies such as the self-regarding instinct. If a chance remark makes a man angry we would say in terms of this theory that an auditory engram was stimulated which in turn stimulated a memory engram which stimulated an anger engram which stimulated an engram of muscular movement which resulted in muscular activities which our own engrams recognize as indicating anger. It is not really so simple as this—there are other engrams concerned—but if we state it this way instead of just noting that the man behaved in a certain manner we are supposed to be putting things on a sound material

basis. We must allow Semon to speculate if he wishes, but to put engrams in the category of things we can see and handle offends scientific canons.

Lest it may be said that engrams are not part of the medicine of the schools let us take something that undoubtedly is. Writer's cramp is a disorder that is called 'functional'. In regard to a stammer in speaking we agree that the patient is himself producing it, and, though we may study the manner of his doing so, no one seriously propounds a physiological cause for it. The recognition of writer's cramp as a stammer affecting writing instead of speech is slowly emerging, but has been hindered by such speculations as the one enshrined in Osler's *Text-book of Medicine*[1] :—

> "The education of centres which may be widely separated from each other for the performance of any delicate movement is mainly accomplished by lessening the lines of resistance between them, so that the movement, which was at first produced by a considerable mental effort, is at last executed almost unconsciously. If, therefore, through prolonged excitation, this lessened

[1] Fourth Edition, p. 1108. (The passage has been deleted in later editions.)

> resistance be carried too far, there is an increase and irregular discharge of nerve energy, which gives rise to spasm and disordered movement."

To discuss this nerve energy which is increased and irregularly discharged would soon leave physiology far behind. Moreover the conception, besides being of no practical use, does not fit all the facts. Some subjects of cramp can write perfectly when alone, just as some stammerers can read aloud when alone, and some, like the stammerer, find difficulty only in certain letters. The pseudo-physiological explanation of cramp serves only to produce the feeling that we know something about matters concerning which we know nothing; it is fiction, not hypothesis.

A further example is to be found in Osler's account of spasmodic wryneck, which includes a detailed description of the actions of the different muscles that may be concerned in the spasmodic movements, and ends by saying, "The affection is usually regarded as a functional neurosis." Now Osler is careful to define many of the conditions he describes; scarlet fever, for instance, is "an infectious

disease characterized by a diffuse exanthem and an angina of variable intensity". But nowhere does he define what is meant by a neurosis, functional or otherwise. It plainly has some relation to a nerve or nerves, and so long as we make no further inquiry it seems to belong to the category of things that can be pointed at. Yet all we know is that the man who jerks his head about is doing something he ought not to do.

In the same text-book are given, under the heading "Diseases of the Nervous System", accounts of curious local episodes, especially in the Middle Ages, in which numbers of people under the influence of religious or other excitement broke out into gesticulations and dancing and were relieved by pilgrimages to sacred places. We know no more about the condition of the nervous system when people behave thus than we do about its condition in any other erratic behaviour, such as Bolshevism or a sudden loss of form at golf. But so long as we talk as if the nervous system were diseased we can maintain the belief that

we are on a sound material basis. Fiction again !

This kind of fantasy puts a strain upon those who value the principles of pathology and physiology. It is true that through our nervous system we have our being, perceive the world around us, feel emotions about it, and act in relation to it. But, as Sir Charles Sherrington has said, " To pass from a nerve impulse to a psychical event, a sense impression, percept, or emotion is, as it were, to step from one world to another and incommensurable one." The pretence that one world can be dealt with as if it were the other is seen to be a failure as soon as we ask ourselves what neurology has to tell us about spasmodic wryneck, epidemic chorea, Bolshevism, or foozled shots, and seek to find what we mean in such cases by talking about a neurosis.

This spurious identification of the two worlds goes far back in medical history. We are amused at the derivation of the word ' hysteria ', first used because it was supposed that certain symptoms arose from the wanderings of an un-

satisfied uterus which could be driven back into its place by evil-tasting drugs. 'Melancholia' likewise put things on a sound material basis, though the state thus named is no longer ascribed to the colour of the bile. 'Lunacy' and 'hypochondria' are further landmarks along a path which medicine shows little sign of deserting, for modern advances in the ancillary sciences serve to provide fresh explanations that postpone the admission that there are sick people the cause of whose ailments cannot be put on a plate and pointed at. Examples in modern times indicate the influence these explanations exercise upon clinical medicine.

In some of our older text-books are descriptions of a disorder called 'railway spine'. It arose after railway accidents, the varied symptoms being ascribed to damage to the spine or spinal cord. There were built up theories of ascending or descending nervous degeneration, of commotional disturbance and meningeal irritation, which brought the disorder into line with our philosophy. When it was pointed out that victims of an

accident who received serious injury —a broken limb, for example—never suffered from the symptoms of 'railway spine', it was answered that, just as a watch dropped upon its glass face escapes injury to its delicate works because the glass receives the blow, so when the victim's leg or arm was broken his delicate nervous system escaped injury. Finally two surgeons, Herbert Page and Furneaux Jordan, brought the pathological theories to the tribunal of the scientific canons, and after a controversy extending over years established the view that the symptoms were the reactions of the man as a whole and had no relation to any lesion of the nervous system. The condition is now called 'traumatic neurasthenia', though similar conditions arise apart from trauma, and we do not know what a neuron looks like when it is asthenic. The patient and his friends still believe that the symptoms are the direct physical result of some damage to those anatomical structures known as nerves, and efficient treatment is, largely for that reason, difficult to apply.

This history of abandoned fiction had been forgotten when the Great War began. Then we read of men reported as "Wounded, shell-shock", and they wore wound stripes when those decorations were introduced to distinguish men who had received physical injury from the enemy. A glance through the medical journals of that period reveals some interesting pathological views. Gases from high explosives were supposed to enter the blood, and, with punctiform hemorrhages into the brain and the separation of synapses by the force of a shell explosion, were recorded as causes of shell-shock. Some ingenious people with a remembrance of Janet's theory of mental dissociation pictured the explosions as producing a physical dissociation of centres in the cerebral cortex, and thus materialized an abstraction. When it was noted that severely wounded men did not suffer from shell-shock the analogy of the broken watch-glass was again invoked; and this survival of error was the only recognition of relationship with 'railway spine'.

Then strange things began to be reported. Soldiers who had heard a shell-burst from afar, or perhaps not at all, presented symptoms identical with those of shell-shock, and men who were mute or paralysed recovered their lost functions when they went to a picture show or fell into a river. Fantasies of physical injury ceased to appear in our journals ; and finally the word shell-shock was abolished as an official diagnosis, for events had shown that shell-shock was a reaction of the individual to the terrors and dangers of warfare, and that to put it in the category of physical injuries was a disastrous mistake. After the war a commission was appointed which decided that shell-shock was a mental condition, to be guarded against by training and discipline. Its physical pathology was finally buried with as little fuss as possible.

As usual we had learned nothing from history. There was hardly a symptom in shell-shock that had not been known and described years before high explosives were invented. Almost every one had

been described by Herbert Page, whose book on *Railway Injuries*, although written in the eighties, contains one of the best descriptions of shell-shock. Yet the same mental attitude that had—not to put too fine a point upon it—made a mess of 'railway spine' now evolved a pathology of shell-shock whose only relation to science lay in the use of anatomical and pathological terms. The attitude is fostered by the axiom already mentioned: "If you cannot find an organic disease you must think of a functional nervous disorder"—which in practice works out to, "If you can imagine an organic disease you needn't think of anything else."

The application of this pernicious principle was not limited to the mass error of shell-shock. Our military hospitals were cumbered with numberless cases in which the manifestations of disturbed mental states masqueraded as physical disease. If I may be allowed a personal reminiscence I will explain that it was the strictness of my training in anatomy and pathology that compelled me to reject many diagnoses that came before

me and to maintain that the conditions present would not fit any lesion that I could conceive in terms of those sciences. A reviewer once described as hyperbole my account of the state of affairs in military hospitals, but at the risk of again arousing criticism I will repeat the passage.[1]

> "Hysterical contractures were treated by means of elaborate and expensive instruments or by tenotomies, hysterical vomiting in epidemic form was called gastritis and the patients were dosed with bismuth or fed by means of nutrient enemata, men who tilted their pelves were given thick-soled boots for the apparent shortening of the lower limb, and hysterical whisperers were recommended a dry bracing climate for their laryngitis. More than once or twice the surgeon was called upon to open an 'acute abdomen' the owner of which returned to duty within a few hours."

There used to be a form of art by which, in a series of sketches with successive slight alterations, a man's head became transformed into, let us say, a turnip. A like process took place in a case it was once my fortune to meet. The man was invalided with the diagnosis of

[1] *The Nervous Patient*, Lewis & Co., p. 12.

thoracic aneurysm. In the course of years this was successively altered to dilatation of the arch of the aorta, disordered action of the heart, neurasthenia, and finally to hysteria; and this history was placed before me when he sought a pension for epilepsy.

The humorous side of the case may appeal to us in spite of the reflection that the man's life has been ruined by an error which, occurring in connection with any branch of medicine other than that of functional nervous disorders, would seriously shock professional pride. But I fear that many of us retain some of the old prejudice that to produce a diagnosis of organic disease in a case of 'functional' disorder is always pardonable.

Among the results of the war, then, was the demonstration on a large scale of this mental attitude which impels us to ascribe to physical causes morbid conditions in which no physical cause can be demonstrated and in which the postulate of a physical cause leads only to a wrong handling of the situation. Even when such error is avoided, as in the case

with which this chapter opened, the diagnosis of a neurosis or a functional nervous disorder means the end of professional interest. Inasmuch as the word ' neurosis ' is used with a sense of finality, as if all problems were solved, we must in the next chapter examine the significance attached to it.

II

WHAT IS A NEUROSIS?

Physical disease of brain tissue influences mental processes; and sometimes, as in general paresis of the insane, we know enough to foretell before death what morbid changes will be found. Disease or injury of nerve tissue, apart from the brain, is also easily diagnosed during life; and again we can often safely predict what morbid condition will be found. Disease of brain or nerve tissue stands in relation to disturbed function as cause to effect; but the assumption that changes in mechanism *always* precede and cause mental processes is not to be lightly made a basis of clinical medicine, for it involves the greatest problem that man, as a philosopher, has ever faced.

When we see a pathological alteration in behaviour of the type usually called a functional nervous disorder or neurosis

we find, nevertheless, such an assumption almost unwittingly made without any realization of its philosophical difficulties. If a man, for example, declares and shows inability to move his arm and we can find none of the recognized signs of nervous disorder, we know, as a matter of clinical observations and traditions, that the most varied stimuli, mental or physical, may result in the sudden disappearance of the disability. Knowing this, we call it a functional nervous disorder, though every disorder involves function, and the real significance of the term is, by a curious paradox, that we know nothing about any disorder of the nerves concerned. But, unfortunately for the progress of medicine, a pathological significance is given to it ; and, although the statement has perhaps never been definitely laid down, to many people, especially medical students, 'functional nervous disorder' carries the suppositions that there is really something wrong with the nerves concerned and that if our knowledge were complete we should be able to recognize this something and treat it

according to the rules of a materialist philosophy.

This supposition of a pathological anatomy that only awaits discovery is, however, a form of metaphysics, as is shown by a consideration of the history of the word 'neurosis'.

To seek a meaning for it in modern medical writings leads to disappointment: no writer that I have studied attempts seriously to define it, for to be told that a neurosis is a functional nervous disorder leaves the matter still in the air.

Turning to the *New English Dictionary* we find neurosis first defined in the "pathological" sense as, "A functional derangement arising from disorders of the nervous system, especially such as are unaccompanied by organic change in the structure of the body; a nervous disease." The second of these definitions we may exclude from our consideration, for by current usage a nervous disease is not a neurosis. The first definition, however, provides a basis for the use of the word if we confine "disorders of the nervous system"

within the limits of physiological knowledge. Its use was, indeed, once subject to those limitations. The first quotation given in the Dictionary is from Cullen, who wrote (1776-84): "I propose to comprehend under the title of neuroses all those preternatural affections of sense or motion which are without pyrexia, as a part of the primary disease." The next is from Good: "He considers it [lead colic] to be a neurosis." In 1845 there appears in a medical journal the sentence: "The diseases of function . . . embrace the neuroses, haemorrhages, and dropsies."

Then, at a date which is significant, we find a departure from physiological limitations. Maudsley wrote (1874): "Families in which insanity, epilepsy, or some other neurosis exists." In 1899 Allbutt wrote: "For two or three preceding generations such neurotic stocks had intermarried and so accentuated the neuroses present."

Thus it appears that up to the year 1874 the word neurosis had a definite clinical connotation. The people who

used it were speaking of nerves—anatomical structures; and their use of it was clear from the standpoint of the anatomist or pathologist. Maudsley and Allbutt, however, departed widely from that standpoint, and introduced confusion.

To understand how this change came about we turn again to the Dictionary, where we find the word defined in the "psychological" sense as, "A change in the nerve cells of the brain prior to and resulting in psychic activity." Huxley is quoted as saying (1871): "As it is very necessary to keep up a clear distinction between these two processes, let the one be called neurosis and the other psychosis", and Romanes (1882): "Some intimate association between neurosis and psychosis being thus accepted as a fact by the hypothesis of automatism".

Whether one accepts the hypothesis of automatism in any of its varied forms or any other metaphysical conception of the relation of brain and mind (and there are several to choose from) one must agree with the authors of the Dictionary in keeping apart the meta-

physical and the clinical definitions of neurosis. But it seems clear that Maudsley and Allbutt, influenced by current philosophical conceptions, took Huxley's legitimate use of the word and, uniting it with the legitimate clinical use, produced an offspring which has none of the virtues of either ancestry.

The suffix '-osis' bears no pathological significance; it indicates the doing of something. Neurosis is action in which the neuron takes part; psychosis is action in which the psyche takes part. We may agree that one cannot occur without the other, that no mental process can occur without a corresponding neural process. We may, if we choose, give a pathological meaning to the terms and say that there is no disorder of mental processes—psychosis—without a disorder of neural processes—neurosis. And what then? We may be logical, but unless on clinical grounds we can specify the nature of the neurosis the practical application of our metaphysics will be slight.

But, as a matter of fact, we use neurosis

and psychosis with no reference to any discernable principles—philosophical, logical, etymological, or clinical. It is difficult to indicate *how* the words are used; but as a general rule neurosis covers many physical manifestations—some stomach troubles, headaches, vasomotor disturbances, and occupational disorders like writer's cramp, for example; in addition it covers manifestations in the mental sphere—hysterical affections, phobias, obsessions, and inappropriate emotional states not belonging to a group of mental disorders that society recognizes as calling for seclusion of the patient. This social distinction appears to be the line of cleavage between neurosis and psychosis. Thus a man who is irrationally afraid to walk alone across a field, and acts accordingly, is suffering from a neurosis; but a man who irrationally believes that people are persecuting him, and acts accordingly, suffers from a psychosis. Huxley would be puzzled to understand why a patient with dementia precox, in whom pathological changes are anticipated at a post mortem, is suffering

from a psychosis, whilst a girl who cries when she might be expected to laugh, and in whom no pathological changes are to be looked for, is suffering from a neurosis. Moreover, even the social distinction fails us when we find Maudsley inferring that insanity is a neurosis.

There is, too, another social judgment involved. Although the sufferer from a neurosis is, by current usage, not insane, yet there is a subtle condemnation involved in the word, especially in its adjectival form. To call a person neurotic is almost libellous ; and a defence could scarcely be made by explaining either that he suffers from a functional derangement arising from disorders of the nervous system or that he has changes in the nerve cells of his brain prior to and resulting in psychic activity.

This is not a mere quibble about words, although it involves all that vocabulary which includes neurasthenia, nerve exhaustion, nervous debility, brain exhaustion, and other phrases that assume a non-existent knowledge. It involves a fundamental point of view, the view

that something is gained if we turn aside from inquiry into mental processes and invent a mytho-pathology to satisfy our desire to think we know. The muddle of absurdities involved in the use of 'neurosis' is symptomatic of a muddled mental state, of a group psychosis in the pathological sense. Whilst we need not postulate an antithesis between body and mind we should know when we are speaking of one and when of the other, when of physico-chemical reactions and when of the man himself.

There have, it is true, been occasional protests against the assumption that we are being materialists when we misuse particular words. As long ago as 1783 Dr. Johnson, in a letter to Mrs. Thrale, spoke of, "A tender, irritable and, as it is not very properly called, a nervous constitution". And in 1887 Morell Mackenzie, writing of hay fever, criticized the use of 'neurosis': "Nowadays we, knowing really nothing more about the matter, make a show of explaining such vagaries by means of learned words like *neurosis*, which, like the old defin-

ition of orthodoxy, simply means your *-osis* or my *-osis*, and leaves things precisely as they were. *Nervous*, of course, all such manifestations are, for all the secrets of man's being lie hid in his nervous system, but of the conditions giving rise to them we are at present entirely ignorant."

But the word has its uses if we will only apply it as it was applied before that union of metaphysics and clinical observation took place at the period when scientific advance made us think that the greatest problem of all was nearly solved. " Affections of sense or motion " referred to clinical observations that could usefully be described in physiological terms, for ' sense ' plainly means what we now call ' sensation '. Lead colic, too, is best approached from a physiological standpoint. In both examples the writers had a definite idea of what physiological functions were at fault, and could perhaps, even at that day, specify them in neurological terms. We should do well to follow their example, and use the word neurosis only when we can specify the

physiological function at fault. *Neurosis, then, should indicate a disturbance of the intrinsic function of nerve tissue;* and the word should be avoided when we have to deal with the behaviour of the individual, even when that behaviour is shown—as behaviour must always be shown—by way of physiological mechanisms. In the hypothetical case already referred to, for example, the man declares and shows an inability to move his arm, though examination and experience tell us that he has no physiological disability of nerve. His motor nerves are quite competent; the man himself, for some cause, refrains from using his arm. The *why* of his refraining can only be expressed, if at all, in terms involving desire or volition. We know this; we know it so well that many of us feel tempted to blame the man for his behaviour, or hesitate to utter the diagnosis of hysteria lest we should be suspected of blaming. Yet such a type of altered behaviour we call a neurosis or functional nervous disorder. It is a psychosis. If the social distinction between the

two '-oses' weighs upon us, let us call it a 'minor psychosis'.

Yet there are conditions—often associated with emotional states—in which a definable interference with nerve function occurs. The rapid pulse of a person under prolonged emotional strain can be specified as arising from interference with the function of nerves regulating the heart's action, and may be influenced by drugs which affect those nerves. The alteration of stomach secretion in 'nervous' dyspepsia is of the same nature, and so are fine tremors in people who are undergoing mental strain. These and other conditions of the same type are usefully described as neuroses.

III

WHAT IS BEHIND THE NEUROSIS?

In the previous chapter I showed how the word neurosis, now applied in a haphazard fashion to mental and physical conditions, should be restricted to disturbances that can be described in terms of physiology. Even with this restriction the word covers a mass of symptoms for which the philosophy of test-tubes offers no explanation, for they are dependent upon a disturbance in the mental sphere—a minor psychosis.

Since, apart from lunacy, disturbances of thoughts, emotions, and desires are subjects hitherto avoided by medicine, it is necessary to lay down some general ideas concerning these essentials of behaviour. Many of us unwittingly cling to the intellectualist fallacy that reason is not merely a tool but a driving force, and, since reason is a matter of the logical application of knowledge, that if all men

were equally informed and equally logical there would be no difference of opinion between one man and another. We have, also unwittingly, accepted the assumption that whilst the ordinary man knows very little of what is happening in his body he knows and understands all that is happening in his mind ; in other words, that mental processes only exist when the owner is aware of them. When a man gets angry or admires a sunset or votes for a party politician, he is supposed to know why he does it. It is still to many people unthinkable that there should be motives for his behaviour about which he knows nothing.

We should be saved from this fallacy by the fact that we have little recollection of what happened in those early years of life during which our character and modes of thought and behaviour were being moulded. We are here concerned, however, more particularly with the minor psychoses, and we may therefore seek information derived from the study of such disorders.

When shell-shock ceased to entitle

its owner to a wound stripe there arose a belief in some quarters, fully sensed by those who had to treat the patients, that since the men had received no physical injury they were either malingerers or insane. Yet these very cases served to establish for many observers that minor psychoses had their origin in mental processes of which the sufferer was unaware. We were familiar with accounts of shell-shocked men who had lost their memory; but investigators who approached the clinical problem by the tedious method of spending hours with each man, seeking for causes of the bizarre symptoms so often shown, found that loss of memory for important emotional incidents was an almost invariable feature of every case. Perhaps the commonest loss was for the period immediately following the sudden mental collapse that gave the disorder its name. The history of a period of unconsciousness after an explosion that always left the man physically unharmed—a history uncritically accepted as evidence of concussion—really indicated a period of great emotion in which the man was,

to employ a useful if unscientific phrase, 'beside himself'. From this condition he 'came to' with a loss of memory for the period. But this lost memory could be restored by methods which evolved as experience grew. Other losses were usually discovered, mostly of war incidents charged with emotion, but in some cases going back to earlier days, even to childhood; and there was discovered a curious relationship between the memory and the symptom. A simple example was the case of a man who constantly moved his head to the left and raised his right shoulder with a peculiar movement of the right arm. This was a reproduction of his efforts to extricate himself when partly buried by a shell explosion and exposed to a storm of more shells. When the memory returned to him he again went through the emotion experienced at the time and the symptom disappeared. In other cases the hidden memory produced abnormal fears or impulses which remained a mystery to the patient till the memory was revived. Examples could be given without end;

their abundance may be illustrated by the note that, in a hospital where these methods were being used by several doctors, the case just described would scarcely have been thought worthy of mention.

Not only were incidents forgotten, but motives were often discovered of which the man had been unaware. It was common for a man to declare that he was not and never had been afraid. To meet this declaration with an argument to the contrary was soon found to be futile; but by using the same methods that restored the memories of terrifying incidents it often came about that the man reached a true understanding of himself. The writer recalls making a note during an interview with a patient: "Says he was never afraid." The man made good progress, and when the question arose as to his disposal he was asked what he thought about going back to France. "If I went back I should run like a rabbit," said he. He was shown the note above mentioned, upon which he commented: "Well, Sir, I believed that was true

when I said it, but I know now that it wasn't."

If the reader can accept that this man was neither a fool nor a liar he will make a great step in understanding that the mental processes producing some disorders of behaviour are unknown to the patient. Moreover, this man's fear was only one factor in the production of his symptoms, though it is the easiest to understand. Not only had the fear been banished from consciousness, but with it had been banished many of the dreadful happenings that had caused it. To attempt to persuade him at the start of treatment that all his symptoms were due to fear of returning to the front would have been not only futile but out of harmony with fact.

When those who worked by these methods turned to the minor psychoses of civil life they found there the same types of symptom. Indeed, they had already discovered that many of their war patients—even those who seemed typical shell-shockers—had suffered from such disorders before enlistment. They

were compelled to cast aside the attempt to consider as primary disturbances of physical mechanisms those alterations of behaviour dependent upon mental processes of which the patient was unaware. As medical men they knew the share of physical health in maintaining mental poise; but when faced with a patient showing unreasonable fears, compulsions, or inhibitions, that interfered with efficiency and happiness, they could approach them only with the hypothesis that they had origin in mental processes of which the patient was unaware.

There are objections to the conception of mental processes apart from awareness. 'Mental', say some people, means 'conscious'; therefore there cannot be mental processes apart from consciousness. But the ancient belief thus etymologically expressed must not be allowed to prevent us from revising our opinions in the light of fresh knowledge. As a concession let us say that things happen *as if* mental processes take place without awareness. It is true that we might avoid the difficulty by circumlocutions about engrams

and such like, but engrams are, in two senses, not material.

Since those mental processes which produce symptoms are associated with feelings of fear or apprehension, we need not be surprised to find some of the physical accompaniments of fear present in sufferers from the minor psychoses. Fear is accompanied by staring eyes, dilated pupils, tremblings and sweatings, relaxation of the sphincters, dryness of the mouth, changes in the heart rhythm and respiration, chokings in the throat, and, as we have learnt by experiment, alterations in the secretions of internal glands. So, like the man who denied that he was ever afraid, the nervous patient[1] may suffer physically from the manifestation of a fearful emotion, and yet honestly deny the presence of that emotion or anything that might cause it. In such patients we may meet, not alterations of behaviour and obviously disturbed emotions, but physical manifest-

[1] I find that, in spite of Dr. Johnson, I must so far yield to the usage of centuries as to use the phrase 'nervous patient' to indicate a sufferer from a minor psychosis.

ations due to an unsuspected emotional state. It is these physical manifestations, correctly named neuroses, which provide many of the failures of our profession, and afford a hunting ground for the patent medicine vendor, the osteopath, and every variety of quack And this situation will remain until we study mental processes, of which the patient is unaware, and their effect upon bodily functions.

We can turn again to the reservoir of war experience for an example of this effect. Eighty thousand men were invalided from the army with a diagnosis of "disordered action of the heart" or, in army slang, "D.A.H.". Hospitals were devoted to their investigation and treatment, many pathological theories were propounded, and—a most unfortunate result—the men believed their hearts were diseased. In Osler's text-book the signs and symptoms are fully described and given their proper value as secondary manifestations of hysteria or neurasthenia; and in Page's book they are described among the symptoms of 'railway spine'. Osler's account shows an almost

literal correspondence with phrases in official reports of studies of the condition ; yet these studies were carried on, and the men were treated, as if the condition were primarily a heart affection. On the other hand, medical officers who were treating cases of shell-shock were familiar with D.A.H. as a part of that trouble, though the men were not taught to regard themselves as suffering from a heart affection.

It is, however, possible to defend our customary attitude by declaring that the heart trouble is primary, and that the minor psychosis arises from it. In fact, that kind of defence is common. In a patient with digestive disturbances arising from emotion, matters can be kept within medical philosophy by putting the cart before the horse and ascribing the emotional disturbance to the stomach trouble. There is, however, no difference in this year of grace between men who were diagnosed shell-shock, neurasthenia, or D.A.H., except perhaps in their own views as to causation. They all present, in addition to any neurosis, a common picture of minor psychotic

symptoms, and one cannot accept the proposition that those originally ticketed D.A.H. have reached their present state by a road different from that of the rest. It is now generally admitted that the physical condition is a neurosis, but the tyranny of the word still hinders the recognition that the symptoms are determined by the emotional state. The study of the mechanism of heart disorders has made wonderful advances in recent years; but, in spite of these advances, if a young man or woman in civil life shows signs and symptoms identical with those of D.A.H. the condition is in great danger of being treated as a primary heart disorder. The nervous patient, when told that he has a weak heart, is likely to accept the diagnosis as a means of escape from his other difficulties. A colleague gives the warning,[1] "... do not acquire the reputation of being a careful doctor at the expense of the patient's future —by treating him as if suffering from a weak heart."

Even if D.A.H. is recognized as a

[1] *Lancet*, 1923, I, p. 497.

neurosis the recognition rests upon diagnosis by exclusion. That is to say, "If no organic disease is found you must think of a neurosis." Here we reach a hiatus in practical teaching, to fill which calls for an altered point of view rather than an addition to the curriculum.

A neurosis is to be diagnosed by the ordinary methods of medicine. If it is suspected we must seek for confirmation, just as we do in the case, let us say, of typhoid. A neurosis is diagnosed by the recognition of associated symptoms of mental disturbance, that is, by the co-existence of a minor psychosis; but we are not accustomed, nor as medical students were we taught, to search for these symptoms; and the patients have a tendency, unrecognized by themselves, to stress their bodily troubles and remain silent about their painful thoughts and emotions. With patient and physician thus working hand in hand to avoid the essentials of diagnosis, error is inevitable. Yet as soon as the investigator shows that he is willing to accept the mental symptoms as worthy of attention the

patient will often pour out a story withheld from those who are tied to the philosophy of test-tubes and microscopic slides. Here is an example, the symptoms being related at a first interview of half-an-hour :—

> " I'm naturally of a nervous temperament. I'm a bad sleeper and have nightmares. I shake when I'm worried, and am always anxious whether my work is right or wrong. If people stand in a train I wonder whether the floor will go through. I have a fear in the dark as if someone were following me. If I went to a picture show I should go wet all over and not sleep afterwards. I suffer from anxiety and palpitation in tube lifts. I can't write if I am watched. I had a nervous heart as a child."

Such a story might be told by the sufferer from any neurosis, and it is immaterial that in this case the ' neurosis ' was telegraphist's cramp. But the cramp was not truly a neurosis; it was a minor psychosis, a disturbance of behaviour like a stammer. Associated with it, however, were physiological disturbances, palpitation and sweating, which can rightly be called neuroses, since they are disturbances of intrinsic nervous function. A similar though not identical picture is found in

many cases of writer's cramp, and the reader should turn back to the mytho-pathology of that disorder as given on page 11 and try to understand how our mental attitude hinders inquiry into the patient's emotional state.

How this attitude may be associated with futile research is shown by a quotation concerning D.A.H. :—[1]

> " Hospitals for the investigation of the heart were set apart ; groups of doctors with special knowledge of the heart were detailed for this investigation, and every conccivable device was employed."
>
> " For several years such investigations were pursued with the greatest industry, and if to-day we seek for the increased knowledge of the heart which has accrued, it will not be possible to detect the slightest gain."

There is a heterogeneous group of disorders marked by an absence of post mortem findings, an infinity of pathological speculation, vague references to neurasthenia, neurosis, nervous constitution, and the like, and by the lack of any attempt to investigate the emotional state of the patient. Chief among them

[1] Sir James Mackenzie, *Diseases of the Heart*, Oxford Medical Publications, 4th Edition, 1925, p. 9.

are mucous colitis, dysmenorrhoea, asthma, and spasmodic rhinorrhoea, many dyspepsias, miner's nystagmus, occupation cramps, and many heart disabilities such as psuedo-angina and D.A.H. Behind these symptoms lie, in many cases, emotional troubles such as those described above in the case of telegraphist's cramp. These we never seek, and, if the patient tries to tell of them, they are dismissed as neurotic. Yet in them lies the key to an understanding of the physical symptoms.

IV

HOW THE PUBLIC ARE CONCERNED

The mental reactions of the nervous patient are influenced by the attitude of others, particularly as expressed in words like 'neurotic'. Samuel Butler had suffered from this, or he could not have written his description of the sternness shown in Erewhon towards any sign of bodily disease, and of the shame and reticence so properly felt and maintained by the patient. A hint of bodily disease was an aspersion upon personal reputation, just as in our time and world a hint that a symptom may be a neurosis is met by the assurance—sometimes from his friends, sometimes from the family doctor—that, "He is not that sort of man."

But we are a kindly people, and ways of escape are provided. The easiest is a diagnosis of physical disease; easiest for patient, doctor, and family, for now

there is no problem incapable of immediate handling. Perhaps an operation carries things along for a while, and here the various procedures designed for fixing up loose abdominal organs (the 'pexies', they have been called) once found great scope, though they are now almost out of fashion. A course of vaccines sometimes helps, or the administration of those extracts of organs, mentionable and unmentionable, that form a valuable by-product of Chicago meat-works. Here, too, ultra-violet rays are already finding a use.

The diagnosis of neurasthenia or nervous exhaustion often offers an escape by assuming an organic basis, but there is a subtle gradation of popular meaning in this group of words. To be highly-strung is commendable, nervous exhaustion calls for sympathy, and neurasthenia is respectable though flyblown; but to have a neurosis is dubious, to be neurotic is shameful, and hysteria is moral delinquency. (To prevent misunderstanding it must be noted that there is a comparatively rare condition to

which the term neurasthenia is properly applied).

The nervous patient runs two opposite risks. He may be treated for a non-existent physical disease, or, if that is excluded, he may meet opprobrium or censure. Since a minor psychosis has always its emotional side, and emotion is accompanied by physiological disturbance, it happens that the fear of censure drives the patient to the physical symptom as a refuge. That may save him for a time ; but finally his anomalous symptoms may be recognized as neurotic and, unable to give them up, he is in a worse state than before. The patient finally recognized as a neurotic invalid often offers a history of prolonged treatment, and sometimes of operations, for conditions the existence of which was incapable of being verified.

Yet it must be recognized that there is some justification for the view that a minor psychosis is under the control of the patient. If, as some people advocated during the war, every man with shell-shock had been shot, many cases

would have been prevented; but the shootings would have been so numerous that something else would have happened. If upon every nervous sufferer were forced the alternatives of work or starvation, some would work who now succumb to their troubles; but many would starve and some would find a speedier end.

A great problem is growing up together with the increased public concern for the care of the sick. If to be ill means to be looked after and relieved of responsibility, then the nervous patient, who already finds difficulty in adjusting to the demands of life, loses the stimulus to recovery. It is already recognized, especially by lawyers, that in those cases called traumatic neurasthenia when the law enforces compensation the payment of a final sum is often followed by recovery, whilst a continued allowance maintains the disability.

But it is a serious error which leads to unnecessary suffering to believe, because of this influence of compensation, that every minor psychosis is a form of sham-

ming. There are many people suffering from severe nervous symptoms who keep these symptoms to themselves and carry on their work under difficulties which we more fortunate ones never suspect and perhaps could not understand if we knew of them. Nervous illness is real illness, even if in some cases it can be intensified and perpetuated by a pension or compensation. There are many men still drawing pensions for the nervous sequelae of war experiences. If every one, after appropriate treatment and a fair start in life again, had known that he would receive no pension, many of them would be in a better state now than they are ; but great injustice would have been done to perhaps a greater number.

A similar problem confronts industry, exemplified particularly by the disorder known as miner's nystagmus. This is regarded as a disease of the eyes, and ascribed by many, though not all, ophthalmologists to working in the dim light of a safety lamp. But the nystagmus (or oscillation of the eyeballs) is not the cause of the man's inability to work,

for many who show the sign do not suffer in any way, and some in whom the sign has disappeared are seriously disabled by other symptoms—by fear of the dark or of the light, by tremors and headache, or by mental symptoms that may lead to suicide. We see here the same manifestations as in 'railway spine' and shell-shock, except for the presence of oscillation of the eyeballs, and even that is not constant. With unconscious and expensive irony the disorder is defined in the Schedule of Industrial Diseases as, "The disease known as Miner's Nystagmus, whether occurring in miners or others and whether the symptom of oscillation of the eyeballs be present or not." Following upon this legal definition compensation has increased till it now reaches £600,000 per annum. On the Continent disability from miner's nystagmus lasts about six months; here it may last a lifetime.

Miner's nystagmus, like shell-shock, is due to exposure to conditions foreign to the habits of mankind and involving the constant presence of danger. It

occurs where safety lamps are used because they are the sign of danger; familiarity thus breeds, not contempt, but the mental symptoms which remove the subject from the environment that produces them. To regard it as a physical disease and compensate it without any attempt to understand the emotional causes have cost us much money and the men much suffering, for the nervous patient whose illness is perpetuated by compensation is not happy.

Whenever a minor psychosis is induced by the conditions of a man's calling and impairs his efficiency and happiness, we are faced with this difficulty of dealing justly with him whilst avoiding measures which perpetuate the disability in the individual and increase it in the mass. I present the dilemma to the reader.

The public, through its habit of using for similar conditions words charged with varying moral judgment, has no suspicion that the nervous breakdown of a statesman, the neurasthenia of a business man or the claimant for compensation, the neurosis of an unhappy wife, the

disabling symptoms of a neurasthenic pensioner or a miner with (or without) nystagmus, are all alike in being failures of adjustment of the individual to his surroundings, failures dependent upon a mental state which the sufferer does not understand and which he can rarely control unaided. Moreover, the public ignores the existence of people suffering from those distressing states who carry on their work under unsuspected difficulties, but never reach the stage of breakdown. And it has little knowledge of the extent of invalidity from these troubles.

It is difficult to estimate this extent. These troubles are often, as has been shown, hidden under supposed physical disease. Hospital records are useless; few general hospitals knowingly admit such patients to their wards or encourage their attendance at an out-patient department, though it may be suspected that many regular out-patients are suffering from neuroses—dyspepsia and the like—dependent upon chronic anxiety.

A paper read by Dr. Letitia Fairfield[1]

[1] *Lancet*, 1926, II, pp. 5—10.

showed that of 900 female school teachers who needed prolonged sick leave 240 suffered from 'functional' disease of the nervous system. Figures concerning other groups of workers have been availabe to the writer and show a similar proportion of minor psychoses, and the proportion is always an underestimate since we must make allowance for cases hidden under other diagnoses. The proportion among the general population is entirely unknown.

Few attempts are made to give students an understanding of these conditions, and in his qualifying examination no student expects to be asked anything about them. In spite of the apparent prevalence of 'neurasthenia' and 'nervous breakdowns' and of suicides attributed to them, such a question as "Discuss the diagnosis and treatment of neurasthenia" never appears in a paper at any examination for an ordinary degree or diploma.

The failures of medicine provide the profits of the quack—and sometimes the quack earns his money. Patent medicine advertisers frankly appeal to the sufferers

from 'nerves'; and Christian Science and osteopathy draw their clients largely from those who have nothing the matter with them, measured by the standards of the schools, and who yet seek relief for their symptoms.

V

SOME CONCLUSIONS

Little reference has been made to insanity, for the reason that the study of that branch of medicine is not neglected. Medical students are given instruction in diagnosis and methods of dealing with patients, and specialists everywhere are busy at research into causes and treatment. Thanks to legal enactments and in spite of popular ideas to the contrary, the insane poor are in general as well treated as the sick poor who are not insane. The great improvements that have taken place in modern treatment of the major psychoses are due to influences within the medical profession and not to popular clamour.

Even in such cases as those called paranoia, where we are admittedly ignorant of any organic cause of the system of delusions and where the patient may be in perfect physical health, we realize

that he is a sick man and in need of treatment. It is only in those cases belonging to the other social group, the minor psychoses, that we disclaim responsibility, and dismiss the subject and the patient with the word ' neurotic '. (The writer heard a leading member of his profession describe a patient as being " as neurotic as they make them ", and an audience of medical men accepted the description as final.)

There are, however, hopeful signs. The war has helped, for when cases of shell-shock crowded our military hospitals the War Office set up a training centre where medical men could fill the gap in their education and be taught how to treat functional nervous disorders ; and some of them have helped to spread the idea that such treatment is a function of medicine. One or two general hospitals have made an attempt at this treatment ; at Bethlem Hospital there is now an out-patient department where the nervous patient finds his symptoms taken seriously ; the Maudsley Hospital is doing good work with both in- and out-

patients ; the West End Hospital for Nervous Diseases has arranged to treat ' functional ' disorders on different lines from those followed in the case of organic disease ; and there are at least two clinics devoted entirely to these cases.

These innovations, however, only touch the fringe of the problem of treatment. Their most useful function is as leaven in the professional dough. The primary need is not treatment of patients or instruction of students, but a change of outlook in our medical philosophy.

The writer once knew an invalid Chinese gentleman who was moved from one bed-room to another because, as he said, the devils of sickness haunted the first. The action was perhaps empirically justifiable ; the devils were produced to account for it. Such a harmless aim cannot be attributed to some of our philosophical fictions, which account for nothing, do not serve as guides for action, and act positively by postponing the attack upon some of the urgent problems of medicine. The mental explanation of ' railway spine ' was bitterly

contested; attempts to establish a physical basis for shell-shock met with general approval; and we are frequently urged, when the minor psychoses are under discussion, not to neglect the physical side—as if the physical side had not already been vainly explored, as illustrated in the history of D.A.H.

Our fictions, rebuilt whenever they are demolished, are a defence against admitting the existence of problems before which our education has left us powerless. We shut out the possibility of a mental interpretation of symptoms in order to maintain our sense of security, although the disorders calling for such an interpretation produce a great amount of inefficiency and unhappiness.

The temptation to accept the fictions is great. Miner's nystagmus, for example, offers little difficulty when treated as a physically determined disease, if only we are willing to pay for its increase. If its mental origin be admitted (the reader must understand that the opinions here expressed about it are those of a minority) treatment becomes no easier

and prevention involves problems that may be insoluble. But even if some problems may be insoluble they do not become more soluble by being ignored, and we must try to remedy the defect of medical education which prevents us from recognizing those that may have a solution.

The curriculum of the medical student is already too full ; rather than add to it one would desire a different mental attitude on the part of his teachers ; and what that attitude should be has already been indicated. The student must be taught to recognize fiction. He must not be sent out into the world with such a philosophy that the nervous patient may, as he often does, regard him as the last person to tell his troubles to. Let him know that the various phobias, inhibitions, and obsessions, now regarded as text-book curiosities and never recognized by the majority of practitioners, are common phenomena and of importance in establishing a positive diagnosis. Let him seek for them, for example, in cases of nervous dyspepsia ;

and when he finds them he may save time that might otherwise be wasted in establishing the presence of hyper- or hypochlorhydria. If he learns only that emotion can interfere with gastric motility and secretion his efficiency will be increased, and he may be trusted to find out more for himself as time goes on. Above all, let him recognize that a 'neurotic' patient must be accepted as a responsibility of medicine or frankly handed over to the chiropractor or the Christian Scientist.

The subject of treatment is beyond the scope of this book, but we can understand why nervous patients so readily turn to irregular healers. If no attention is paid to the elucidation of symptoms their treatment obviously is neglected; and when claims are made as to the success of some method it is generally impossible to judge them on account of the absence of information about the symptoms. It is often said, for example, that 'functional nervous disorder' is caused by errors of refraction and is cured by glasses; but the writer cannot find a record of

such a cure in which the symptoms were fully described—and as a standard of fulness he would refer to Raymond and Janet's *Les Obsessions et la Psychasthenie*, one of the few books in which the symptomatology of the minor psychoses is adequately handled. The same holds good with regard to claims in favour of other methods —the extraction of teeth and the administration of vaccines or glandular extracts, for example,—and these unsupported claims indicate a disregard for clinical observation which would not be tolerated in any other branch of medicine.

On the side of research there is much elementary work to be done. The work of Crile upon emotional states and their influence upon physical processes has never been followed up. Although in exophthalmic goitre the signs are those of terror, and shock is accepted as a cause, yet there is little or no attempt to investigate the emotional life of the patients before the onset of the disease. Crile suggested that chronic emotional strain may cause cardiovascular disease ;

but in all the speculations concerning high blood pressure—a mystery of modern medicine—there is never more than a passing reference to that possibility. Gastric or duodenal ulcer is another mystery, but we never inquire what kind of person suffers from it. Mott showed that 80% of shell-shocked men had had a predisposition to 'nervous' trouble; is a knowledge of this predisposition available to the ordinary medical man if, in another war, we should desire to eliminate the susceptible ones? In any occupation involving nervous stress could we, if asked, exclude the temperamentally unfit with the same certainty with which we exclude the physically unfit? In all those disorders called neuroses--asthma, hay-fever, mucous colitis, dysmenorrhoea, disordered action of the heart, dyspepsia, and the like—do we investigate the mental symptoms that may accompany them? Do we, indeed, know what symptoms to look for?

These suggestions indicate a field of necessary research the road to which is at present obscured by our philosophy.

FINIS

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